

FIG. 1

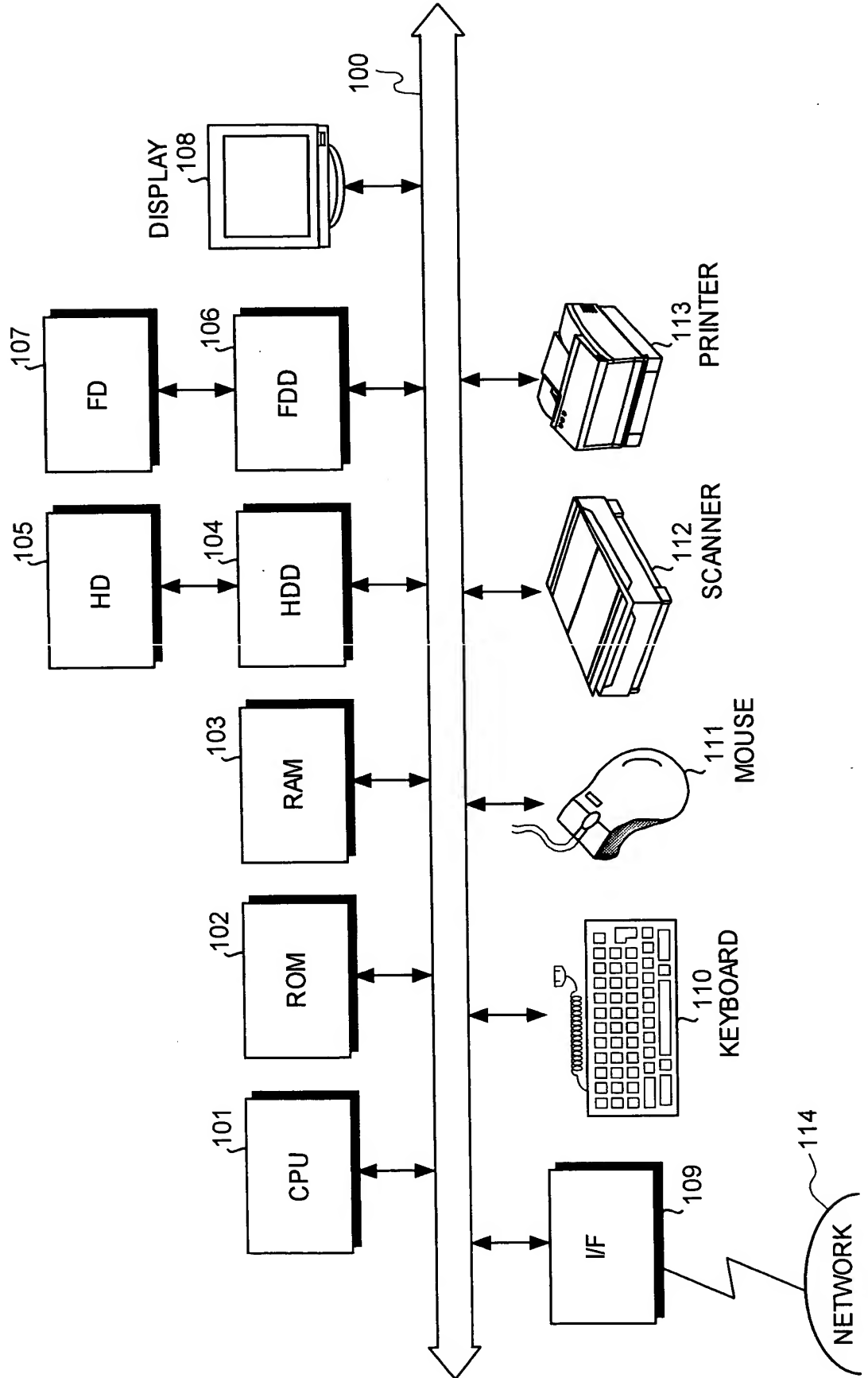


FIG. 2

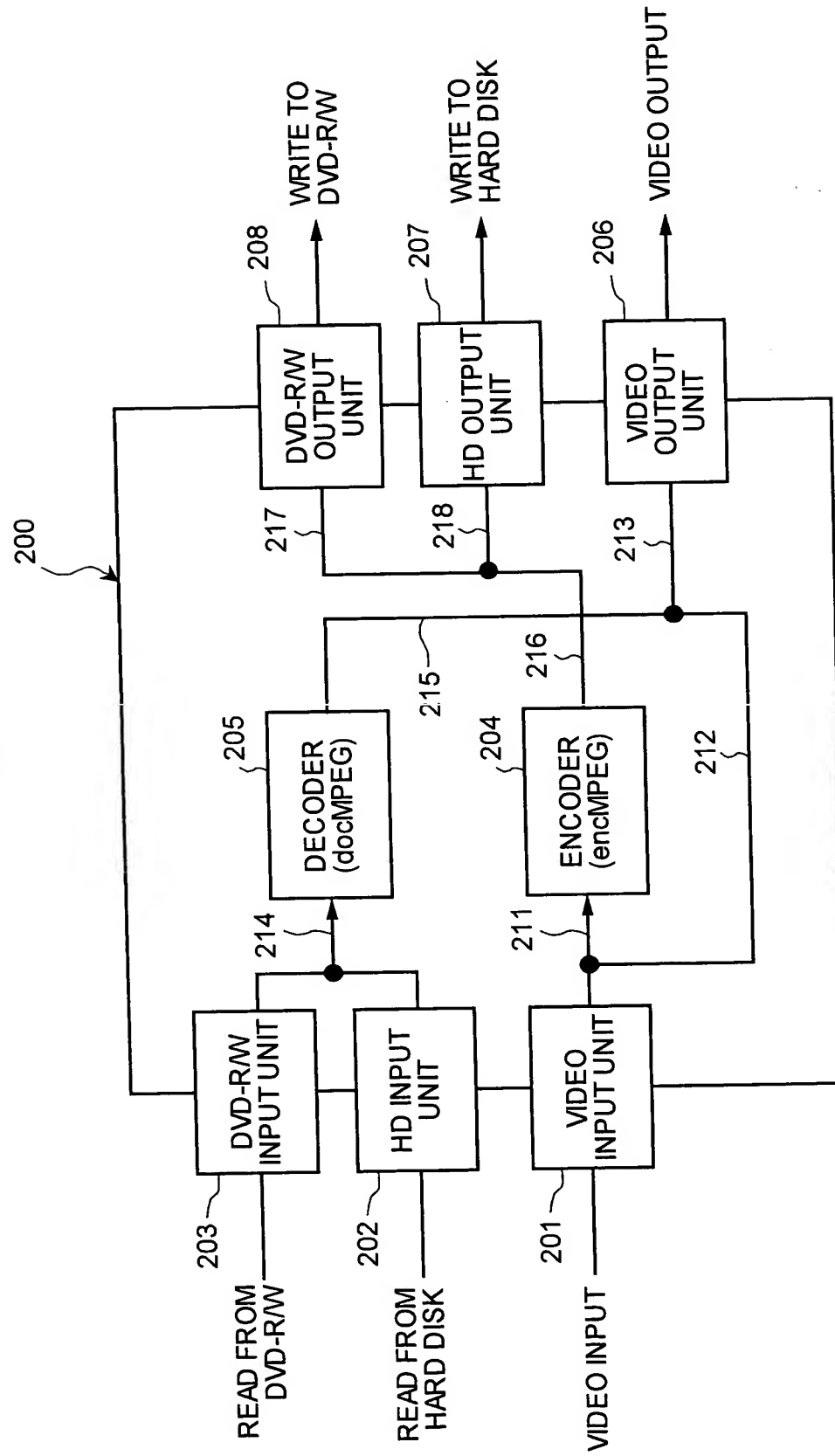


FIG.3

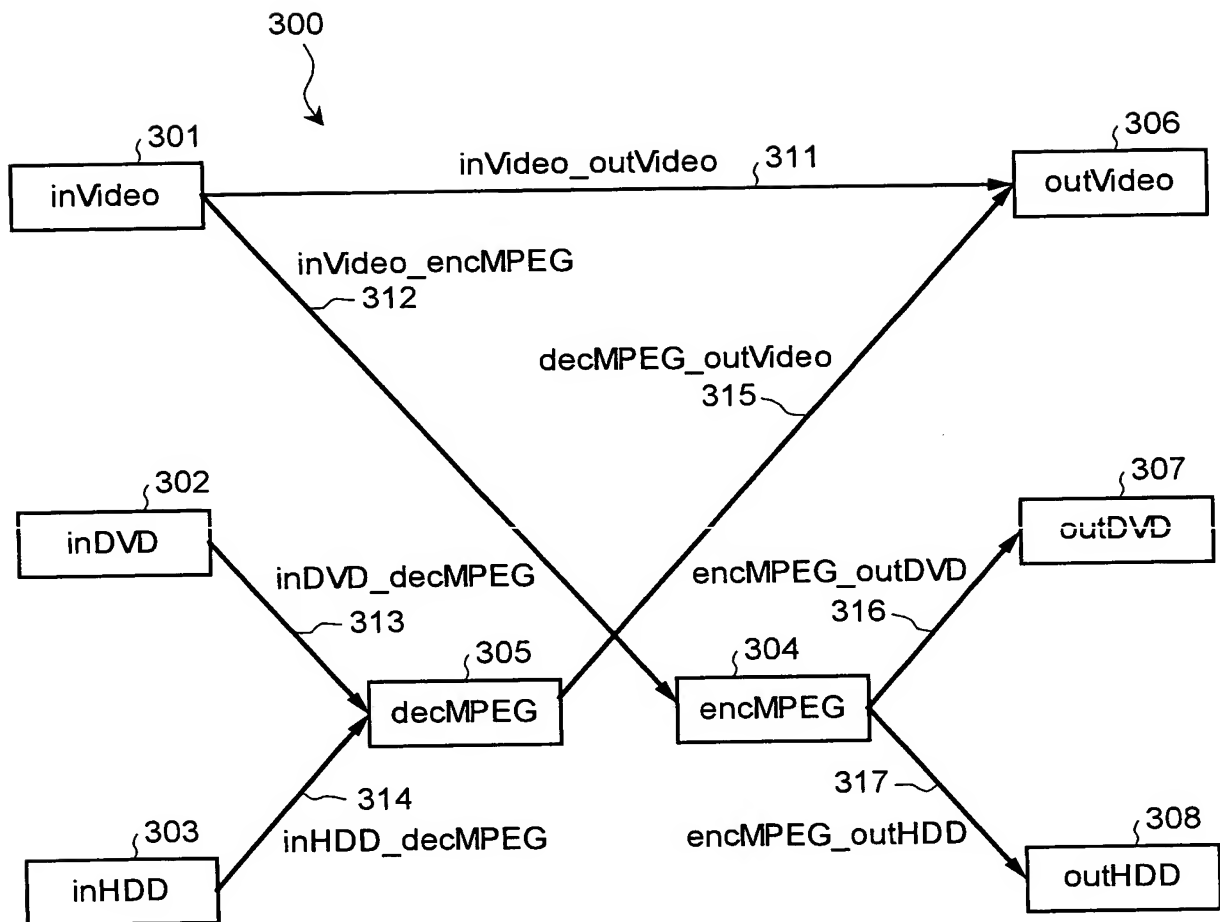


FIG.4

NODE NUMBER	BOOLEAN VARIABLE
NODE 301	inVideo
NODE 302	inDVD
NODE 303	inHDD
NODE 304	encMPEG
NODE 305	decMPEG
NODE 306	outVideo
NODE 307	outDVD
NODE 308	outHDD

FIG.5

EDGE NUMBER	BOOLEAN VARIABLE
EDGE 311	inVideo_outVideo
EDGE 312	inVideo_encMPEG
EDGE 313	inDVD_decMPEG
EDGE 314	inHDD_decMPEG
EDGE 315	decMPEG_outVideo
EDGE 316	encMPEG_outDVD
EDGE 317	encMPEG_outHDD

FIG. 6

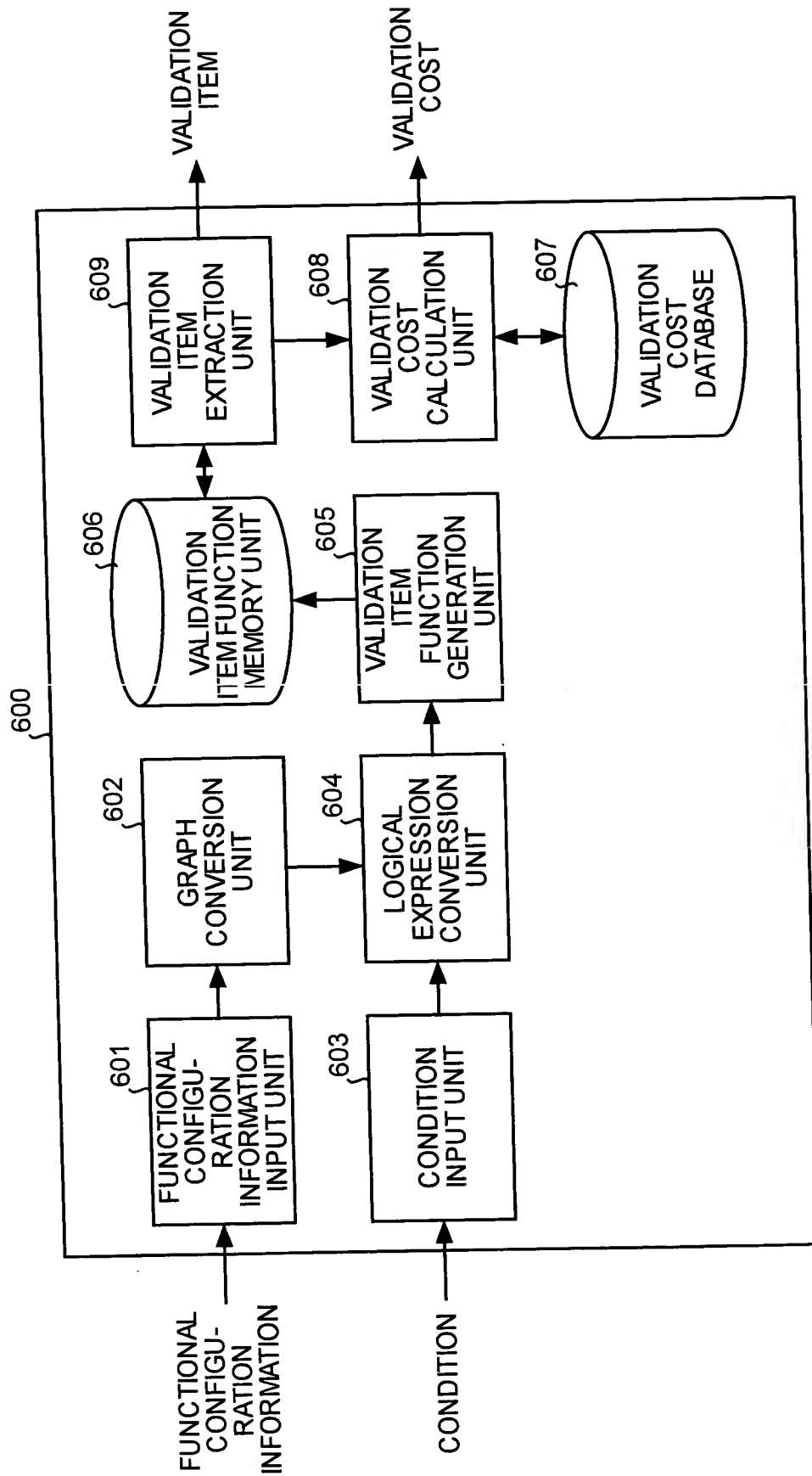


FIG.7

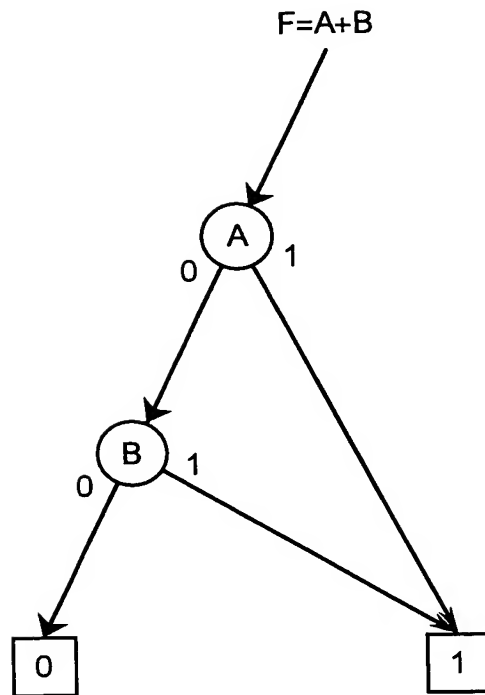


FIG.8

607

VALIDATION COST DATABASE	
BOOLEAN VARIABLE	COST
inVideo	1
inDVD	2
inHDD	1
encMPEG	5
decMPEG	1
outVideo	2
outDVD	2
outHDD	5

FIG.9

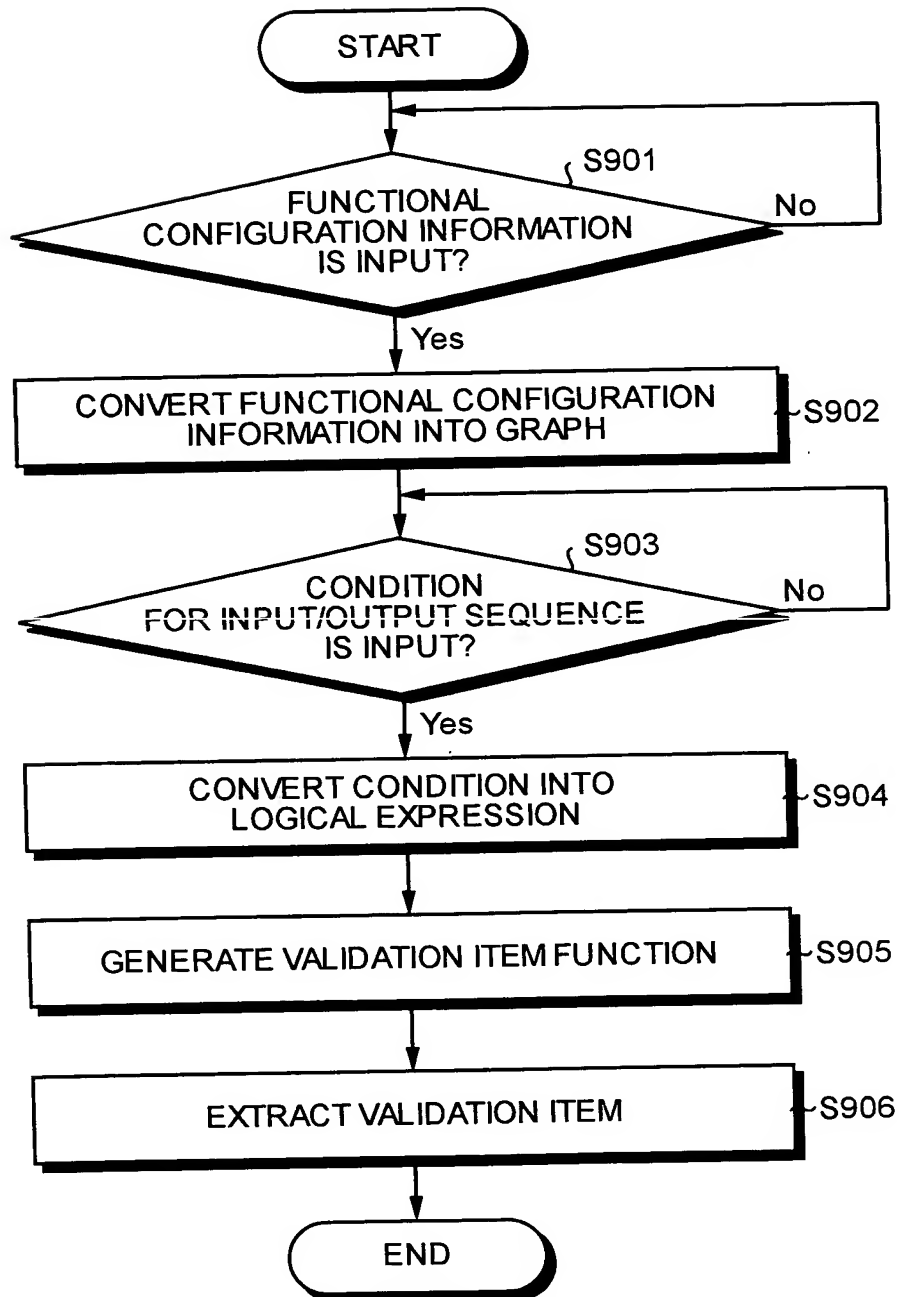


FIG.10

NODE NAME	BOOLEAN VARIABLE	0 NODE AT THE EDGE SIDE	1 NODE AT THE EDGE SIDE
node_1	inVideo	node_2	node_2
node_2	inDVD	node_3	6
node_3	inHDD	val_0	node_1
node_4	decMPEG	val_0	6
node_5	encMPEG	node_6	node_4
node_6	outVideo	val_0	node_5
node_7	outDVD	node_8	val_0
node_8	outHDD	node_9	node_7
node_9	inVideo_outVideo	node_1	val_0
node_1	inVideo_encMPEG	0	val_0
0	inDVD_decMPEG	node_1	val_0
node_1	inHDD_decMPEG	1	val_0
1	decMPEG_outVide	node_1	val_0
node_1	o	2	node_1
2	encMPEG_outDVD	val_0	3
node_1	encMPEG_outHDD	val_0	node_1
3	inHDD	node_1	4
node_1	decMPEG	5	val_0
4	encMPEG	val_1	val_0
node_1	outVideo	node_1	val_0
5	outDVD	7	node_1
node_1	outHDD	val_0	8
6	inVideo_outVideo	node_1	val_0
node_1	inVideo_encMPEG	9	node_2
7	inDVD_decMPEG	val_0	0
node_1	inHDD_decMPEG	node_2	val_0
8	inDVD	1	val_0
node_1	inHDD	node_2	val_0
9	decMPEG	2	val_0
node_2	encMPEG	node_2	node_2
0	outVideo	3	5
node_2	outDVD	node_2	val_0
1	outHDD	4	node_8
node_2	inVideo_outVideo	val_0	7
2	inVideo_encMPEG	node_1	node_6

FIG.11

NODE NAME	BOOLEAN VARIABLE	0 NODE AT THE EDGE SIDE	1 NODE AT THE EDGE SIDE
node_3	inHDD_decMPEG	node_3	val_0
6	decMPEG_outVide	7	val_0
node_3	o	node_1	node_6
7	outVideo	4	0
node_3	outDVD	node_3	node_4
8	outHDD	9	7
node_3	inVideo_outVideo	node_4	node_4
9	inVideo_encMPEG	0	1
node_4	inDVD_decMPEG	val_0	val_0
0	inHDD_decMPEG	node_4	node_4
node_4	decMPEG_outVide	2	3
1	o	val_0	val_0
node_4	encMPEG_outDVD	node_4	val_0
2	outDVD	4	val_0
node_4	inVideo_outVideo	node_4	val_0
3	inVideo_encMPEG	5	node_5
node_4	inDVD_decMPEG	node_4	4
4	inHDD_decMPEG	6	val_0
node_4	decMPEG_outVide	node_9	node_5
5	o	7	0
node_4	encMPEG_outDVD	node_4	val_0
6	inVideo_outVideo	8	val_0
node_4	inVideo_encMPEG	node_4	val_0
7	inDVD_decMPEG	9	node_1
node_4	inHDD_decMPEG	val_0	5
8	decMPEG_outVide	node_5	val_0
node_4	o	1	node_5
9	encMPEG_outDVD	node_5	6
node_5	outDVD	2	val_0
0	outHDD	node_5	val_0
node_5	inVideo_outVideo	3	val_0
1	outHDD	val_0	node_9
node_5	inVideo_outVideo	node_5	7
2	inVideo_outVideo	5	node_6
node_5	decMPEG	val_0	3
3	encMPEG	node_5	node_6

FIG.12

NODE NAME	BOOLEAN VARIABLE	0_NODE AT THE EDGE SIDE	1_NODE AT THE EDGE SIDE
node_7	inVideo_encMPEG	val_0	node_7
2	inDVD_decMPEG	node_7	3
node_7	inHDD_decMPEG	4	val_0
3	decMPEG_outVide	val_0	node_7
node_7	o	val_0	5
4	outHDD	node_7	node_4
node_7	inVideo_outVideo	7	6
5	inVideo_encMPEG	node_7	node_8
node_7	inDVD_decMPEG	8	2
6	inHDD_decMPEG	val_0	val_0
node_7	decMPEG_outVide	node_8	node_7
7	o	0	9
node_7	inVideo_outVideo	val_0	val_0
8	inVideo_encMPEG	val_0	node_8
node_7	inDVD_decMPEG	node_8	1
9	inHDD_decMPEG	3	node_5
node_8	decMPEG_outVide	val_0	3
0	oinHDD	node_8	val_0
node_8	decMPEG	5	node_8
1	encMPEG	val_0	4
node_8	outVideo	val_0	val_0
2	outDVD	node_8	node_8
node_8	outHDD	8	6
3	inVideo_outVideo	val_0	node_5
node_8	inVideo_encMPEG	val_0	9
4	inDVD_decMPEG	val_0	val_0

FIG.13

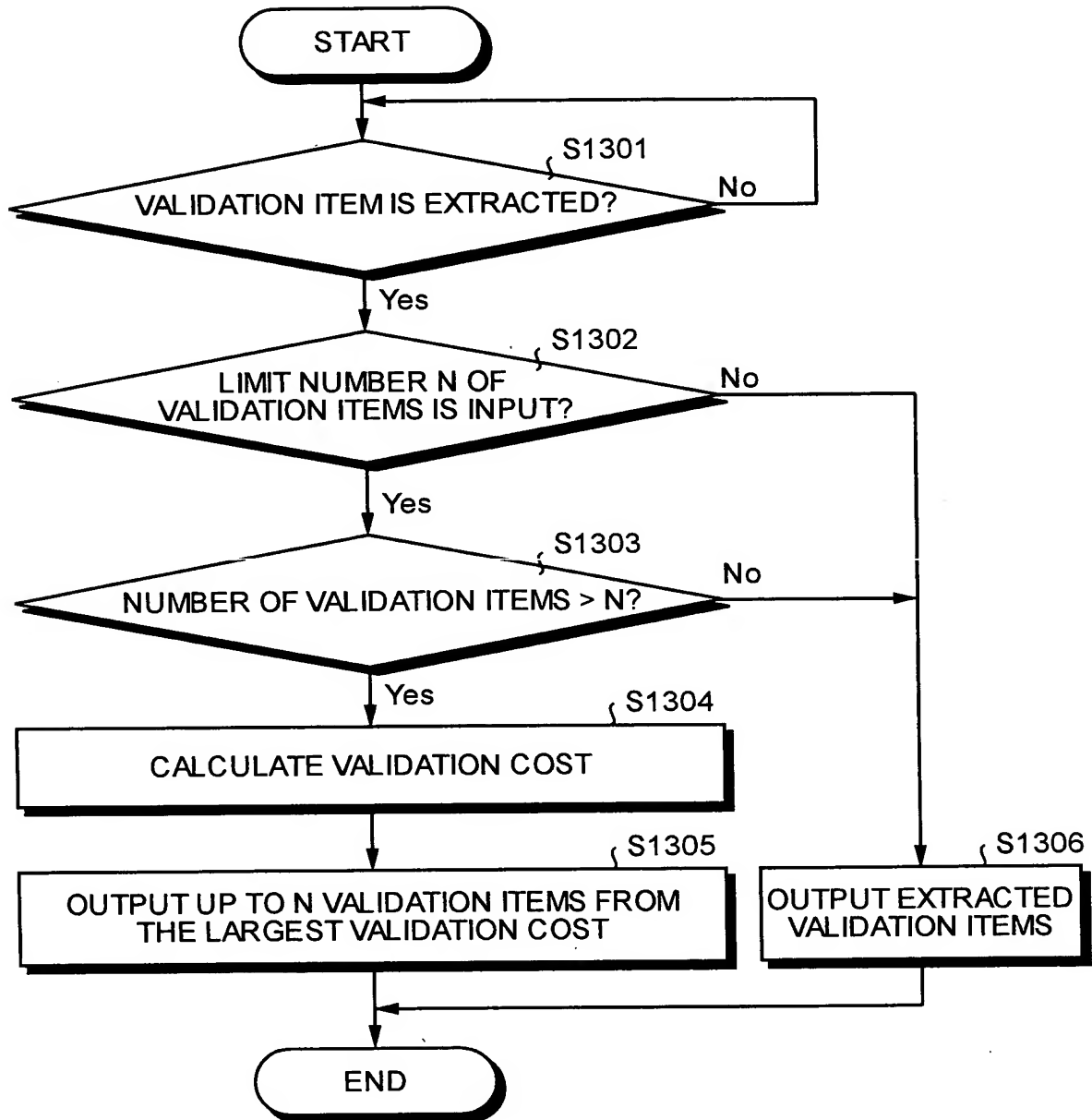


FIG. 14

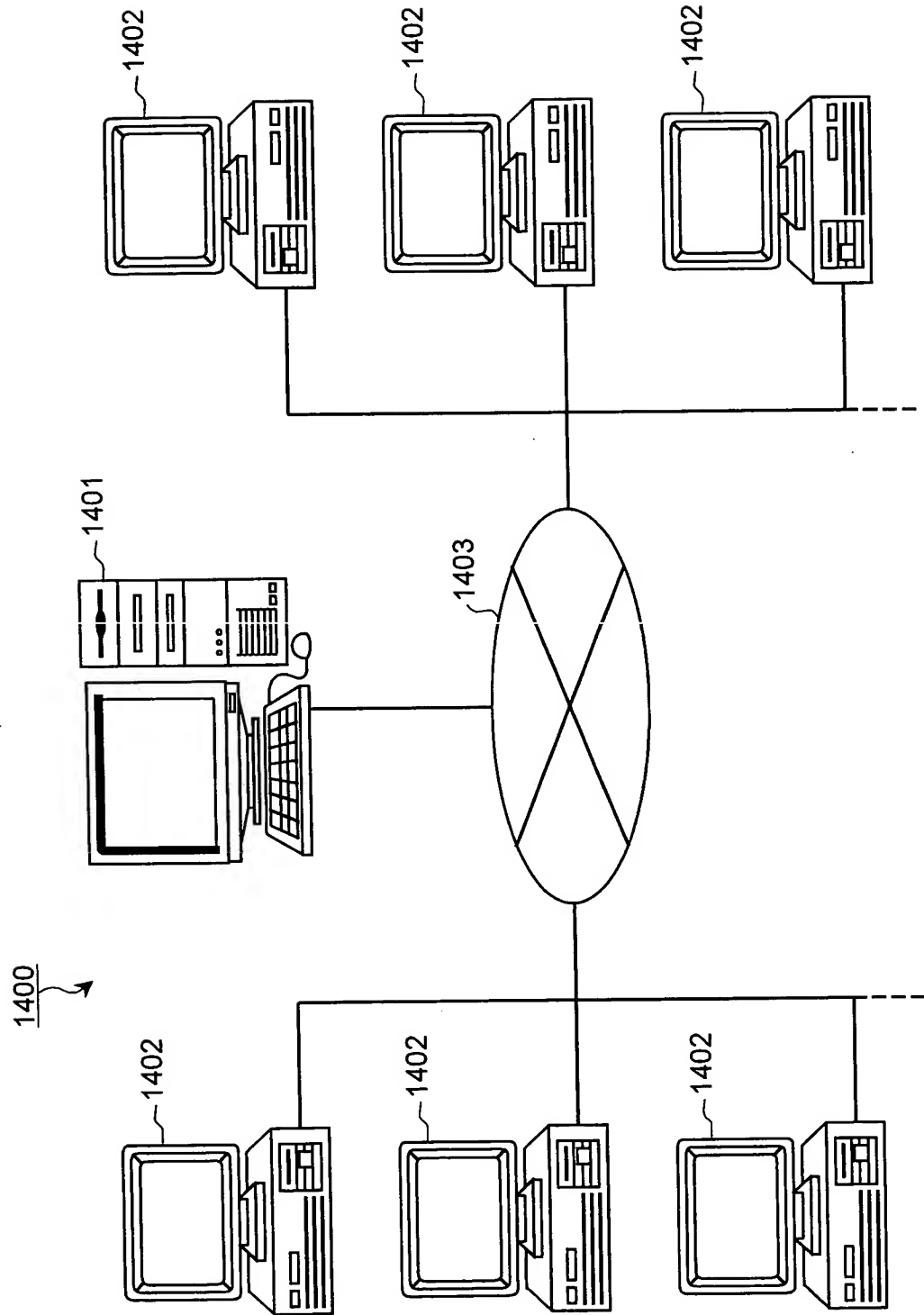


FIG. 15

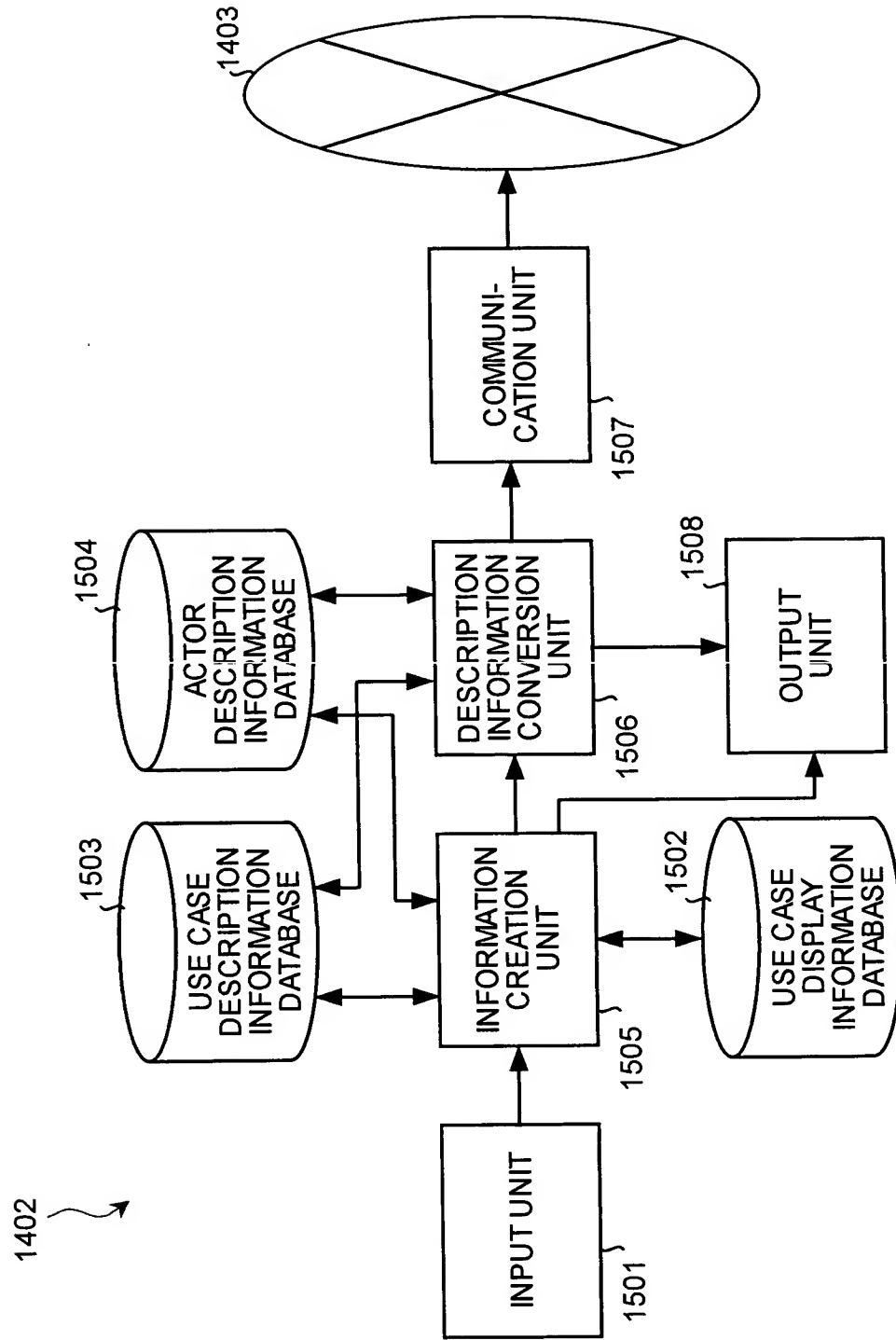


FIG. 16

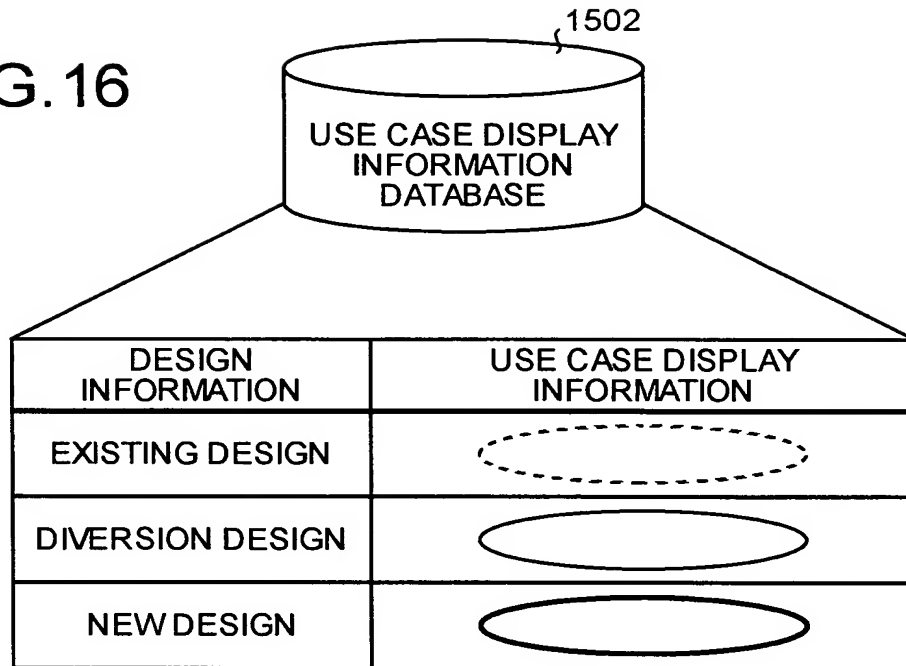


FIG. 17

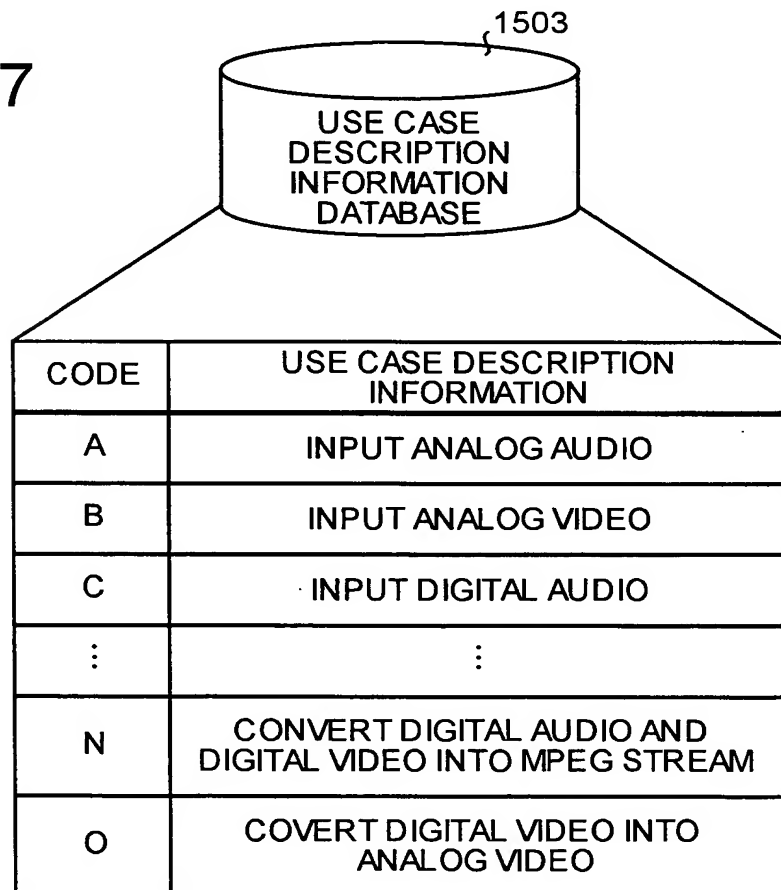


FIG.18

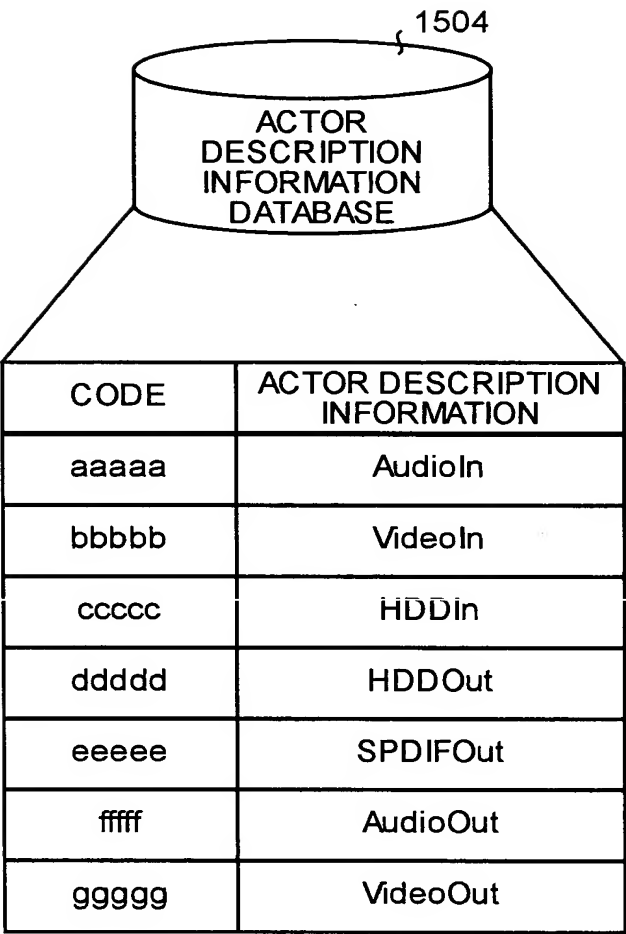


FIG.19

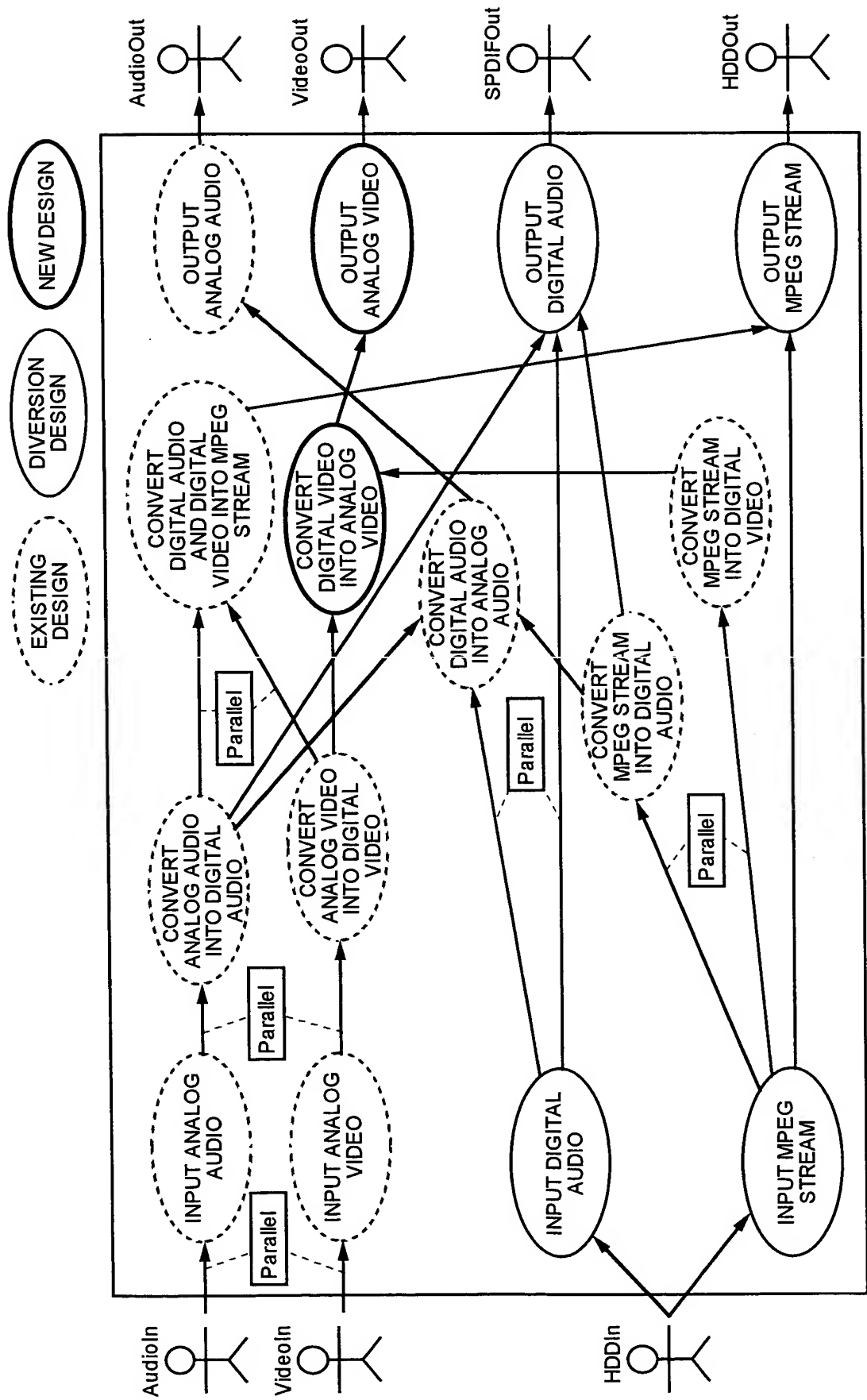
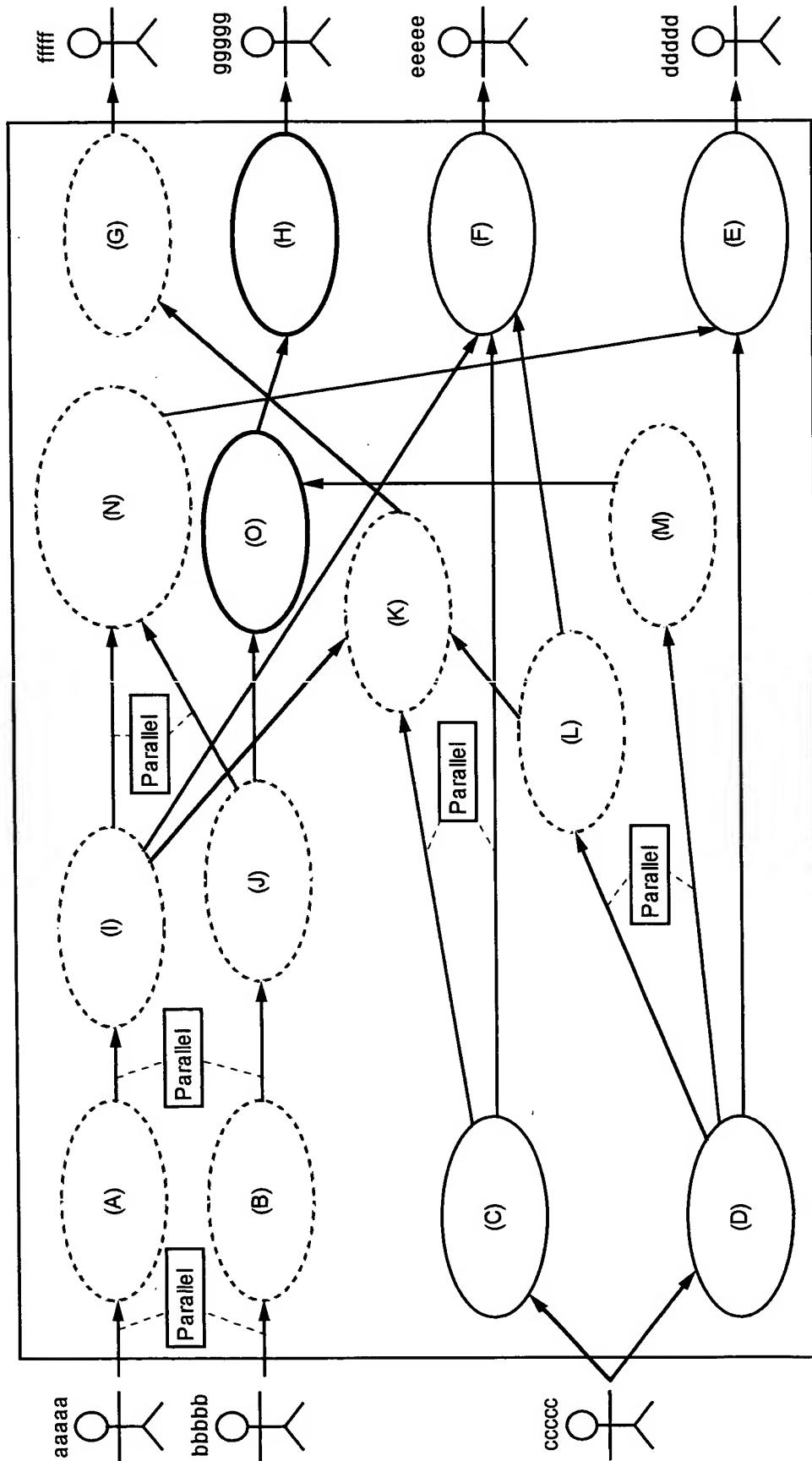


FIG.20



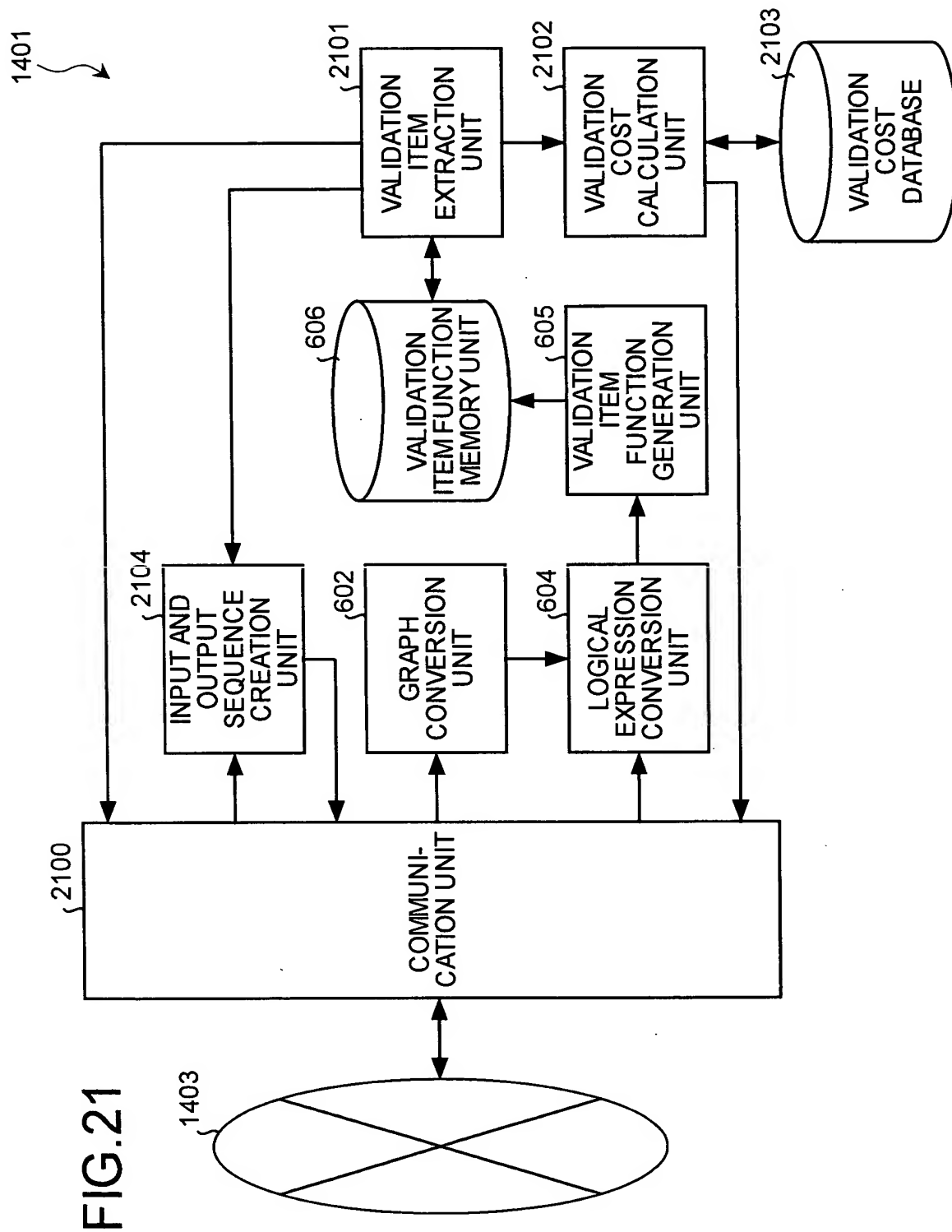


FIG.22

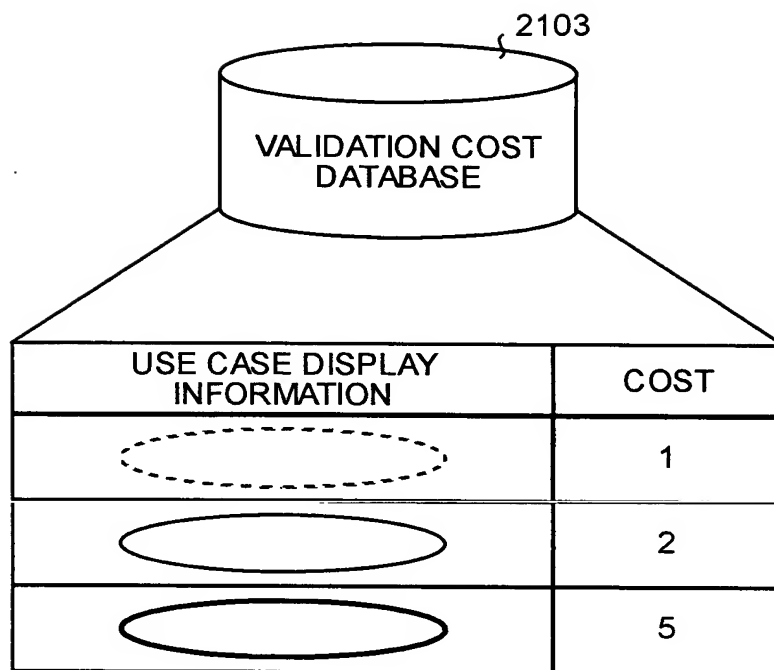


FIG.23

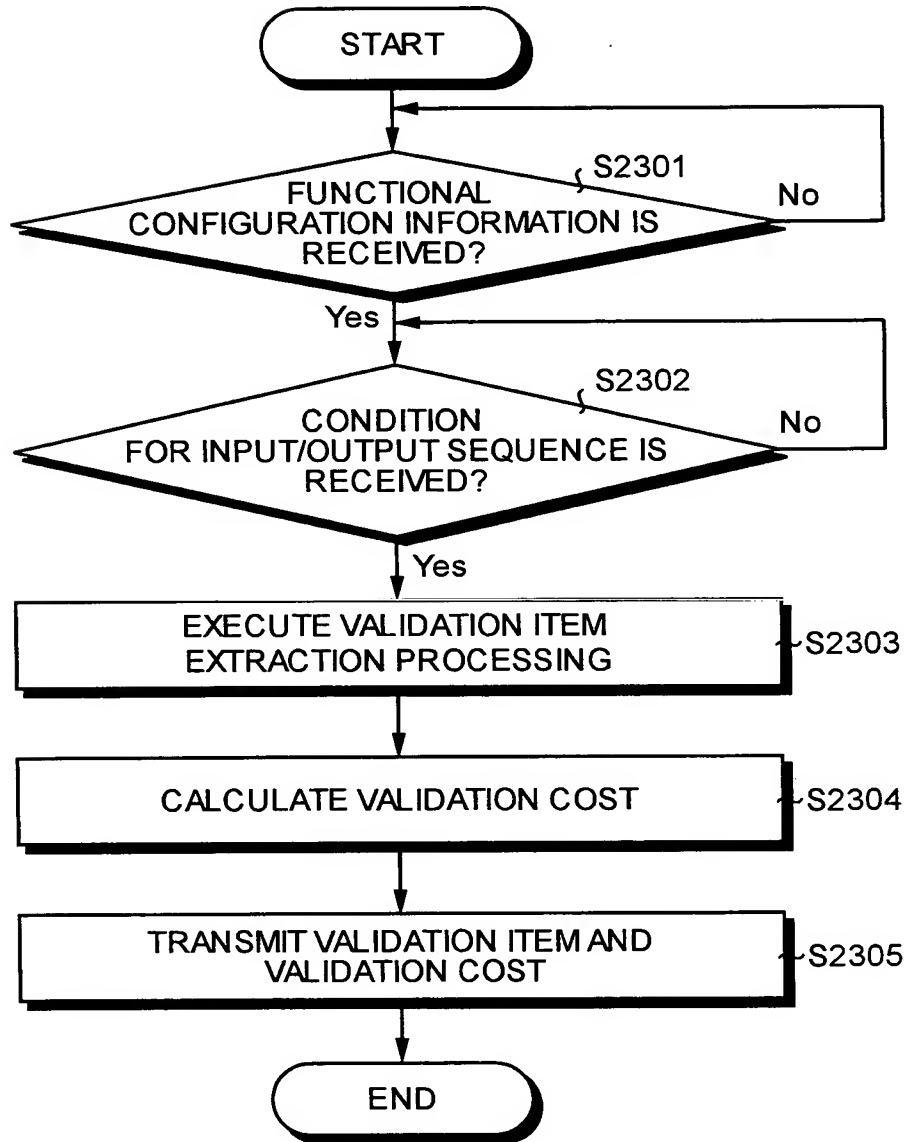


FIG.24

No.	INPUT UNIT	FUNCTIONAL DEVICE 1	FUNCTIONAL DEVICE 2	FUNCTIONAL DEVICE 3	FUNCTIONAL DEVICE 4	OUTPUT UNIT	VALIDATION COST
1	aaaaa	(A)	(I)	(N)	(E)	dddd	7
	bbbb	(B)	(J)				
2	aaaaa	(A)	(I)		(F)	eeee	18
				(K)	(G)	ffff	
	bbbb	(B)	(J)	(O)	(H)	gggg	
3	cccc	(C)	(K)		(G)	ffff	6
					(F)	eeee	
4	cccc	(D)	(L)	(K)	(G)	ffff	18
					(F)	eeee	
			(M)	(O)	(H)	gggg	
5	cccc	(D)			(E)	dddd	4

FIG.25

No.	INPUT UNIT	FUNCTIONAL DEVICE 1	FUNCTIONAL DEVICE 2	FUNCTIONAL DEVICE 3	FUNCTIONAL DEVICE 4	OUTPUT UNIT	VALIDATION COST
1	AudioIn	INPUT ANALOG AUDIO	CONVERT ANALOG AUDIO INTO DIGITAL AUDIO	CONVERT DIGITAL AUDIO AND DIGITAL VIDEO INTO MPEG STREAM	OUTPUT MPEG STREAM	HDD Out	7
	VideoIn	INPUT ANALOG VIDEO	CONVERT ANALOG VIDEO INTO DIGITAL VIDEO				
2	AudioIn	INPUT ANALOG AUDIO	CONVERT ANALOG AUDIO INTO DIGITAL AUDIO		OUTPUT DIGITAL AUDIO	SPDIF Out	18
				CONVERT DIGITAL AUDIO INTO ANALOG AUDIO	OUTPUT ANALOG AUDIO	Audio Out	
	VideoIn	INPUT ANALOG VIDEO	CONVERT ANALOG VIDEO INTO DIGITAL VIDEO	CONVERT DIGITAL VIDEO INTO ANALOG VIDEO	OUTPUT ANALOG VIDEO	Video Out	
			CONVERT DIGITAL AUDIO INTO ANALOG AUDIO		OUTPUT ANALOG AUDIO	Audio Out	
3	HDDIn	INPUT DIGITAL AUDIO	CONVERT DIGITAL AUDIO INTO ANALOG AUDIO		OUTPUT DIGITAL AUDIO	SPDIF Out	6
4	HDDIn	INPUT MPEG STREAM	CONVERT MPEG STREAM INTO DIGITAL AUDIO	CONVERT DIGITAL AUDIO INTO ANALOG AUDIO	OUTPUT ANALOG AUDIO	Audio Out	18
					OUTPUT DIGITAL AUDIO	SPDIF Out	
			CONVERT MPEG STREAM INTO DIGITAL VIDEO	CONVERT DIGITAL VIDEO INTO ANALOG VIDEO	OUTPUT ANALOG VIDEO	Video Out	
					OUTPUT MPEG STREAM	HDD Out	
5	HDDIn	INPUT MPEG STREAM					4

FIG.26

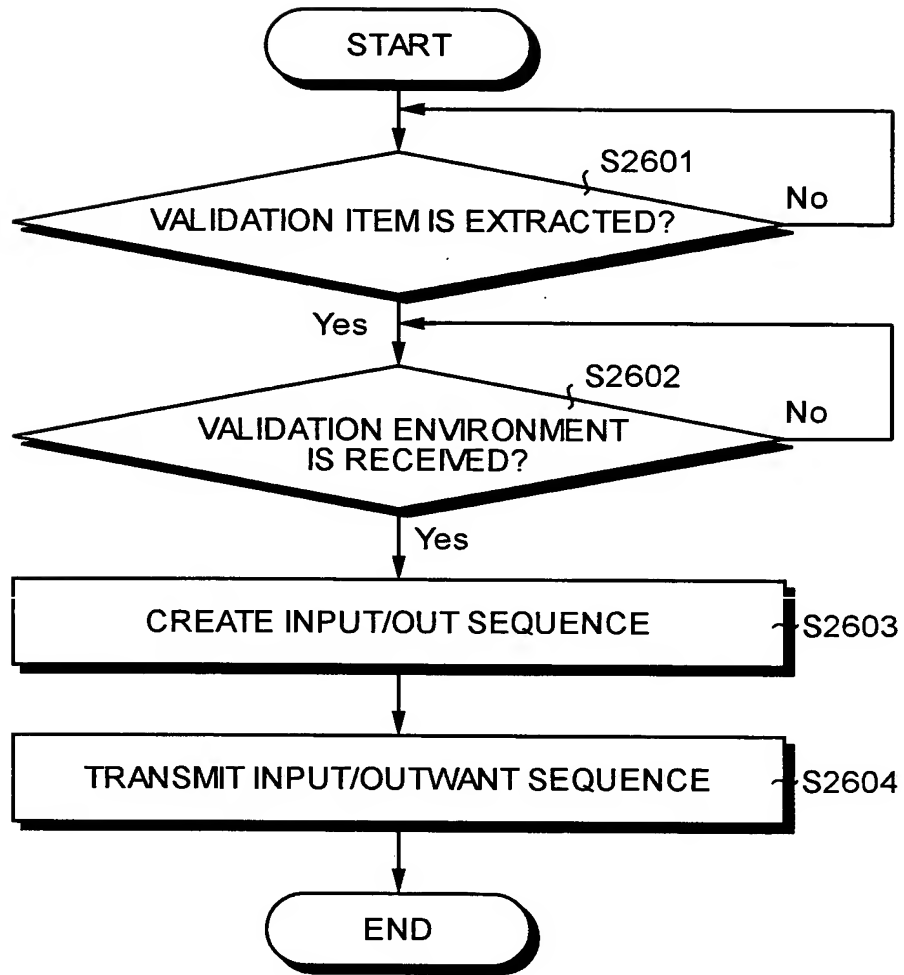


FIG.27

```
[reset = 1][reset = 0]-  
IF (A) THEN data_A = D1  
IF (B) THEN data_B = D2  
IF (C) THEN data_C = D3  
IF (D) THEN data_D = D4  
IF (E) THEN mode_E = 1  
IF (F) THEN mode_F = 1  
IF (G) THEN mode_G = 1  
IF (H) THEN mode_H = 1
```

FIG.28

```
#0 reset = 1  
#1 reset = 0  
   data_A = D1  
   data_B = D2  
   mode_E = 1
```

FIG.29

